



# Rochester Avionic Archives Newsletter

With all good wishes for  
Christmas and the New Year

From  
Chris Bartlett  
and the team  
at the  
Rochester Avionic Archives



The view through a LANTIRN Head Up Display from an F-16 flying through the mountains near Edwards AFB giving chase to Santa Claus flying a Mk3A Buccaneer Head Up Display.



On the left is an Elliott Christmas Card from 1960 and on the right the BAE Systems ecad from 2004.



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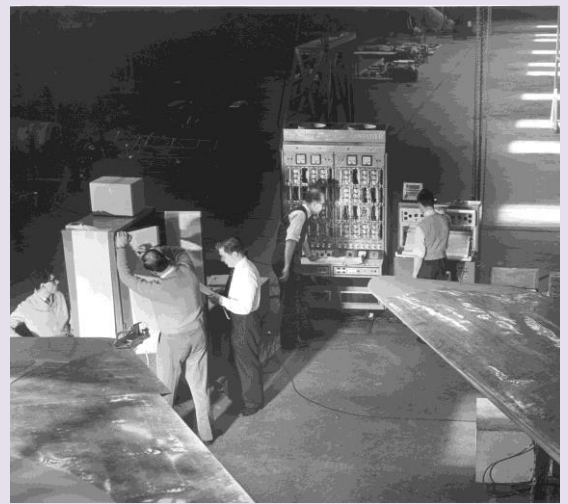
Website: [www.rochesteravionicarchives.co.uk](http://www.rochesteravionicarchives.co.uk)

## Flight Control Testing

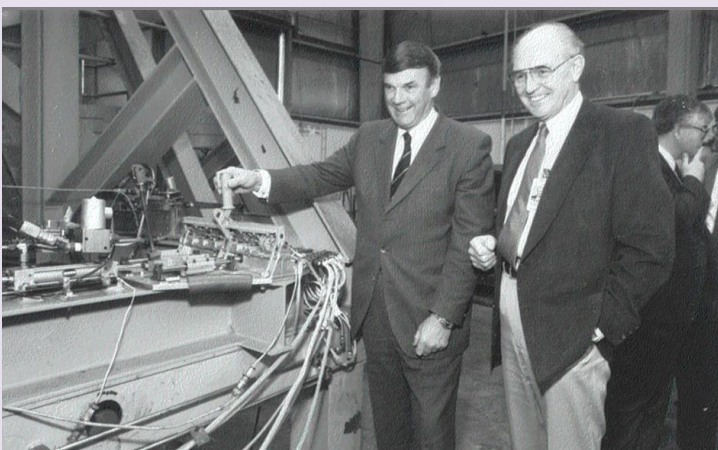
Flight Controls were an important part of Elliott Bros business and the equipment is well represented in the RAA museum. Very little is recorded about the testing of that equipment but the pictures below illustrate some major programmes and the complexity of the rigs.



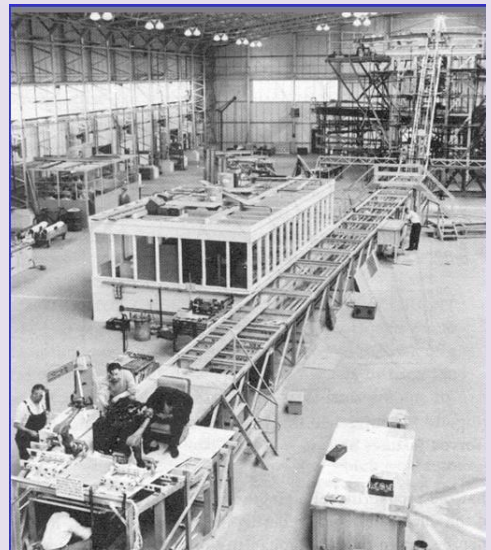
The Test Rig for the TSR2 Flight Controls, at Rochester in one of the Huts, around 1962.



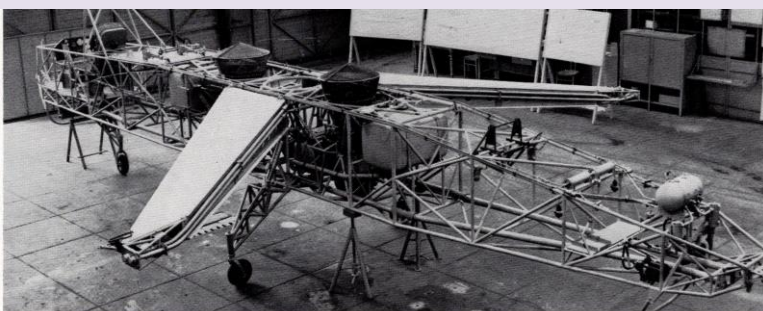
Testing Rig the P1 Lightning Autostabilisation system at Warton in 1957.



Boeing 777 FBW Test Rig in Seattle January 1990. Ron Howard is demonstrating the system.



The VC10 'Iron Bird' Test Rig at Weybridge in about 1961.



This was the FIAT Hover Rig produced for the Italian G95/4 development programme around 1962. Elliotts supplied the quad-redundant stabilisation system.



# Inquest into girder fail at Short Bros

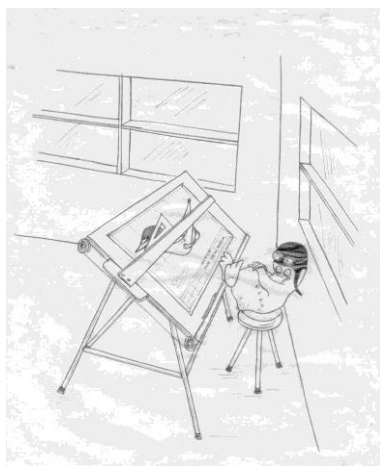
When steel girders collapsed at Short Brothers, Rochester, in June 1940, sabotage was suspected.

Four men were killed in the incident and three were badly injured, all employees of Harland and Woolf structural engineers.

The girders were part of an extension to the aircraft factory. John Stevenson, an engineer, said when completed, the new building would have been 1,000-feet long. The section which collapsed was 150-feet long. The collapse began slowly then it crumpled in a heap.

Asked by the coroner if sabotage might be the cause he said: "It could happen." Harland and Woolf's barrister asked: "In your view is sabotage a possible cause of this unfortunate accident?" he replied: "I would say so."

But the jury decided on a verdict of accidental death. They believed the girders collapsed as a result of wire guys, that had been supporting them, being affected by the weather.

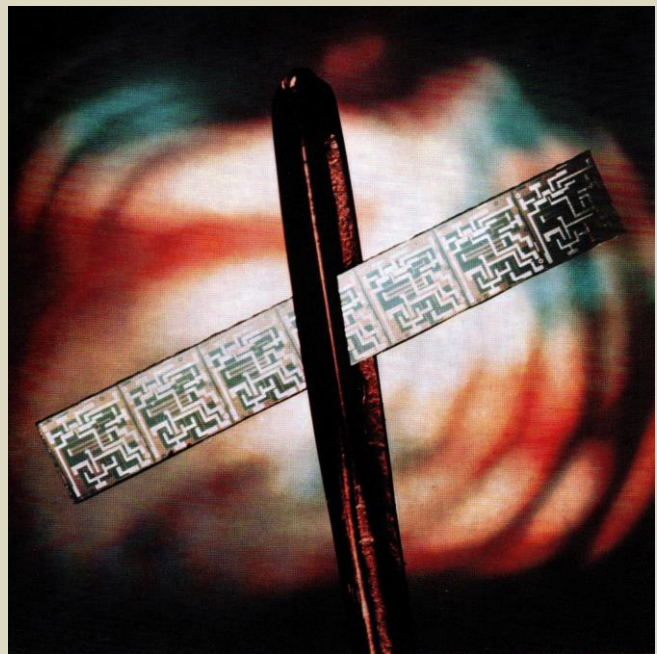


That Aviation Division Duck again!

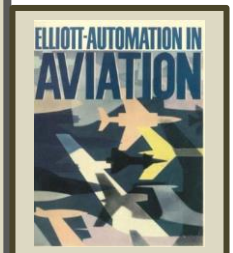
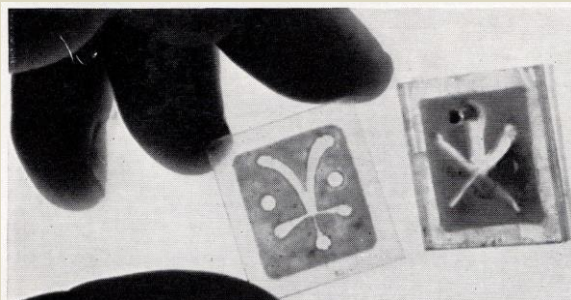
## William Elliott

William Elliott may well have cared for his staff if the case at The Old Bailey on the 17th July 1827 is a typical example. James Shaw an employee of some fourteen years had been indicted of stealing various instruments, spectacles and cases, worth overall 39 shillings, from the premises of William Elliott. William said in Court *'I have other workmen, but nobody but him attended in the shop. I thought him incapable of robbing me - I considered him as one of my family.'* He further had told James Shaw's sister *'I told her I did not wish to press the capital charge, as I thought he would be hung if I did.'* Nevertheless, James Shaw was sentenced to be transported for fourteen years.

Extract from *'Through a Glass Brightly'* by C.T.Bartlett



In the mid-60s Elliott Bros had grown internally and through licensing and acquisitions to be a substantial organisation of some 35,000 employees and over 100 specialised companies in almost every type of industry. In 1966 Elliott-Automation had realised the need to have its own semiconductor plant and accordingly established such a facility at Glenrothes in Scotland. This required huge capital investment and in 1967 the company became vulnerable to a take-over. In July 1967 English Electric made an uncontested bid.



Elliott Automation Fluidic Logic devices. Pictures from the Elliott-Automation in Aviation (Cat. No. D00072

## The Lightning Gate Guardian



A snapshot of the Lightning's performance came from Flt Lt Reggie Spiers who was part of the MoD's initial assessment team at Boscombe Down. Reggie was later the Commandant at Boscombe and, after leaving the RAF as an Air Commodore he worked for the Rochester Avionics business. To quote Reggie - *"Flying the Lightning was quite a culture shock. First flight take off was really spectacular. From brake release to the climb out speed of 450 kts took fifty seconds and one reached the tropopause in a further sixty seconds. The climb was very steep and I must confess to going supersonic just south of Salisbury at about 10,000 feet whilst adjusting the rudder trimmer".*

The Rochester Airport Gate Guardian was a Lightning F.53. This was the export version of the Lightning F.6 with pylons for bombs or unguided rocket pods. A total of 46 were built and delivered to the Kuwaiti Air Force and the Royal Saudi Arabian Air Force.

In December 1965, due to its involvement in the North Yemen Civil War and resulting conflict with Egypt, Saudi Arabia ordered 35 Lightning F.53s and six T.55s as part of the "Magic Carpet" programme.

Our Lightning was one of those aircraft and was built as 53-675; G27-45; C/N 95280 in 1967. It first flew on 19<sup>th</sup> December 1967 from Salmsbury piloted by R. P. Beamont and was delivered to the RSAF at Jeddah on 16<sup>th</sup> September 1968 by Flt Lt Anders. The aircraft served with the RSAF 2Sqd (registered as 206 and then E). She spent 2 years after delivery at Riyadh, whilst the RSAF prepared for operations with the Lightning. She then spent her career between Riyadh and mainly Dhahran, with some time at Khamis and Al Salem. The Lightning spent most of 1972 on decimal conversion for RSAF instruction, then went to Riyadh in 1974 for a fast modification programme. After this it spent the rest of its career, between Riyadh and Dhahran on various duties. She made her last flight at Tabuk on 1<sup>st</sup> January 1986 after which she was retired from 2Sqd.

On 14th January 1986 she was purchased back from the RSAF and returned home with the second batch of Lightnings being sent to British Aerospace Warton for open storage with 1972h 42mins recorded and over 2100 flights. The aircraft was renumbered ZF581 for possible sale to the Austrians but that deal fell through.

British Aerospace ran regular ground runs and basic maintenance from Feb 86 until Feb 87. Eventually, in 1990 the Lightning was sold to a private owner and shipped to Southampton docks container storage.

In 1997 she moved on to Marine Salvage in Portsmouth and then finally was bought back by BAE Systems (Avionics) in the Autumn of 2000. She underwent a complete restoration at the Rochester site of the company by the Medway Aircraft Preservation Society before being placed on the gate in early 2004. She was painted up in 56 Squadron markings, representing an RAF F.6, and looked stunning. It was pushed down the runway to a position on a stand near the Maidstone Road opposite the old Medway College. A colleague was heard to comment that *"You could not start a Lightning by pushing it like that!"*

Much of the avionics is held in the Rochester Avionic Archives.

Eventually the paint began to blister and fade and it was decided that a better home needed to be found where the Lightning would be restored and kept undercover. Accordingly ZF581 was donated to Bentwaters Cold War Museum at Woodbridge in Suffolk (<http://bcwm.org.uk/>). The aircraft was dismantled in 2011 and moved to BCWM where it has been restored for permanent display in their museum.

*'Technology is a word that describes something that doesn't work yet'. Douglas Adams  
(This sums up my career nicely! Ed)*

For those of you affected by Covid please keep safe!